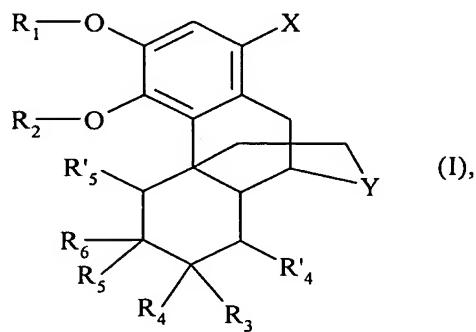




## LISTING OF CLAIMS

Claims 1-30 (canceled)

31. (currently amended) A compound selected from those of formula (I) :



5       wherein

- R<sub>1</sub> represents alkyl,
- R<sub>2</sub> represents hydrogen, alkylcarbonyl, haloalkylcarbonyl or arylcarbonyl,
- Y represents  $\text{NR}_7$ ,  $\text{N}^+ \text{R}_7 \text{O}^-$  or  $\text{N}^+ \text{R}_7 \text{R}'_7 \text{Z}^-$

10       wherein R<sub>7</sub> and R'<sub>7</sub>, which may be identical or different, each represent alkyl and Z<sup>-</sup> represents a halogen anion,

- R<sub>3</sub> represents hydroxy or alkoxy,
- R<sub>4</sub> and R'<sub>4</sub> each represent hydrogen or together form an additional bond, or R<sub>3</sub> and R<sub>4</sub> together form oxo when X is fluorine, chlorine or iodine, or =N-OR<sub>8</sub> (wherein R<sub>8</sub> represents hydrogen or alkyl),
- R<sub>6</sub> represents hydroxy, alkylcarbonyloxy (wherein the alkyl moiety may be substituted by hydroxy, alkoxy, carboxy or alkyloxycarbonyl) or alkoxy,
- R<sub>5</sub> and R'<sub>5</sub> each represent hydrogen or together form an additional bond, or R<sub>5</sub> and R<sub>6</sub> together form oxo, =N-OR<sub>9</sub> or =N-NR<sub>10</sub>R<sub>11</sub> (wherein R<sub>9</sub>, R<sub>10</sub>, and R<sub>11</sub>, which may be the same or different, each represent hydrogen or alkyl),

- and X represents halogen,

it being understood that:

the compound of formula (I) may not represent 1-bromo-4-hydroxy-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-6-one,

5 the term "alkyl" denotes an alkyl group having 1 to 6 carbon atoms which may be linear or branched, and

the term "alkoxy" denotes an alkyloxy group having 1 to 6 carbon atoms which may be linear or branched,

10 its enantiomers and diastereoisomers, and addition salts thereof with a pharmaceutically-acceptable acid or base.

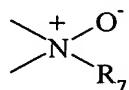
**32.** (previously presented) A compound of Claim 31, wherein R<sub>1</sub> represents methyl.

**33.** (previously presented) A compound of Claim 31, wherein R<sub>2</sub> represents hydrogen.

**34.** (previously presented) A compound of Claim 31, wherein R<sub>2</sub> represents alkylcarbonyl.

15 **35.** (previously presented) A compound of Claim 31, wherein R<sub>2</sub> represents ethylcarbonyl.

**36.** (previously presented) A compound of Claim 31, wherein Y represents NR<sub>7</sub>.

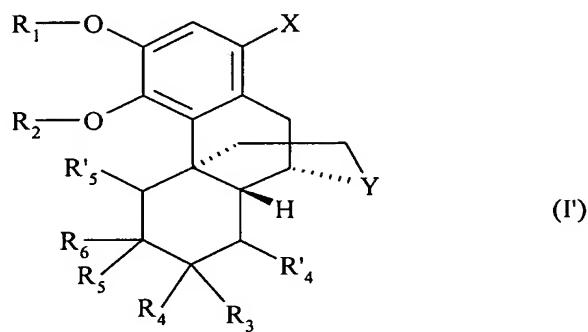
**37.** (previously presented) A compound of Claim 31, wherein Y represents 

20 **38.** (previously presented) A compound of Claim 31, wherein X represents chlorine.

**39.** (previously presented) A compound of Claim 31, wherein X represents bromine.

40. (previously presented) A compound of Claim 31, wherein R<sub>3</sub> represents alkoxy.
41. (previously presented) A compound of Claim 31, wherein R<sub>5</sub> represents hydrogen.
42. (previously presented) A compound of Claim 31, wherein R<sub>6</sub> represents OH.
43. (previously presented) A compound of Claim 31, wherein R<sub>6</sub> represents alkylcarbonyloxy.  
5
44. (previously presented) A compound of Claim 31, wherein R<sub>5</sub> and R<sub>6</sub> together form oxo.
45. (previously presented) A compound of Claim 31, wherein R<sub>5</sub> and R<sub>6</sub> together form  
 $\text{---N---OH}$
46. (previously presented) A compound of Claim 31, which is selected from (9 $\alpha$ ,13 $\alpha$ )-1-chloro-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-4,6-diol and addition salts thereof with a pharmaceutically-acceptable acid or base.  
10
47. (previously presented) A compound of Claim 31, which is selected from (9 $\alpha$ ,13 $\alpha$ )-1-chloro-3,7-dimethoxy-17-methyl-4-(propionyloxy)-7,8-didehydromorphinan-6-yl propionate and addition salts thereof with a pharmaceutically-acceptable acid or base.  
15
48. (previously presented) A compound of Claim 31, which is selected from (9 $\alpha$ ,13 $\alpha$ )-1-bromo-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-4,6-diol and addition salts thereof with a pharmaceutically-acceptable acid or base.
49. (previously presented) A compound of Claim 31, which is selected from (9 $\alpha$ ,13 $\alpha$ )-1-bromo-4-hydroxy-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-6-one oxime and addition salts thereof with a pharmaceutically-acceptable acid or base.  
20

50. (previously presented) A compound of Claim 31, which is selected from (9 $\alpha$ ,13 $\alpha$ )-1-bromo-4-hydroxy-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-6-one N-oxide and addition salts thereof with a pharmaceutically-acceptable acid or base.
51. (previously presented) A compound of Claim 31, which is selected from (9 $\alpha$ ,13 $\alpha$ )-1-chloro-4-hydroxy-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-6-one N-oxide and addition salts thereof with a pharmaceutically-acceptable acid or base.
52. (previously presented) A compound of Claim 31, having the configuration shown by formula (I') :



10 and addition salts thereof with a pharmaceutically-acceptable acid or base.

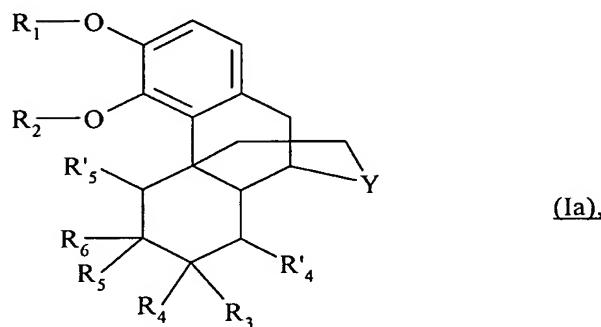
53. (currently amended) A method for treating a living animal body, ~~including a human~~, afflicted with a condition selected from ~~amnesia and~~ deficiencies of memory ~~associated with cerebral aging and neurodegenerative diseases including Alzheimer's disease, Parkinson's disease, Pick's disease, Korsakoff's disease, and frontal lobe and subcortical dementias~~, comprising the step of administering to the living animal body, ~~including a human~~, an amount of a compound of Claim 31 which is effective for the alleviation treatment of the condition.

- 20 54. (currently amended) A pharmaceutical composition ~~useful for treating deficiencies of memory associated with cerebral ageing and neurodegenerative diseases including Alzheimer's disease, Parkinson's disease, Pick's disease, Korsakoff's disease, and~~

~~frontal lobe and subcortical dementias~~, comprising as active principal an effective amount of a compound of Claim 31 together with one or more pharmaceutically-acceptable excipients or vehicles.

55. (currently amended) A method for treating a living animal body, ~~including a human~~, afflicted with a condition selected from amnesia and deficiencies of memory associated with ~~cerebral aging and neurodegenerative diseases including Alzheimer's disease, Parkinson's disease, Pick's disease, Korsakoff's disease, and frontal lobe and subcortical dementias~~, comprising the step of administering to the living animal body, ~~including a human~~, an amount of sinomenine and/or a sinomenine a compound selected from those of formula (Ia):

10



wherein

15

- R<sub>1</sub> represents alkyl,
- R<sub>2</sub> represents hydrogen, alkylcarbonyl, haloalkylcarbonyl or arylcarbonyl,
- Y represents  $\begin{array}{c} > \text{NR}_7 \\ | \end{array}$ ,  $\begin{array}{c} + \text{O}^- \\ | \\ \text{N} \\ | \\ \text{R}_7 \end{array}$  or  $\begin{array}{c} + \text{R}_7 \\ | \\ \text{N} \\ | \\ \text{R}'_7 \end{array} \text{Z}^-$

20

- wherein R<sub>7</sub> and R'<sub>7</sub>, which may be identical or different, each represent alkyl and Z<sup>-</sup> represents a halogen anion,
- R<sub>3</sub> represents hydroxy or alkoxy,
  - R<sub>4</sub> and R'<sub>4</sub> each represent hydrogen or together form an additional bond,

or  $R_3$  and  $R_4$  together form oxo or  $=N-OR_8$  (wherein  $R_8$  represents hydrogen or alkyl),

- $R_6$  represents hydroxy, alkylcarbonyloxy (wherein the alkyl moiety may be substituted by hydroxy, alkoxy, carboxy or alkyloxycarbonyl) or alkoxy,
- $R_5$  and  $R'_5$  each represent hydrogen or together form an additional bond, or  $R_5$  and  $R_6$  together form oxo,  $=N-OR_9$  or  $=N-NR_{10}R_{11}$  (wherein  $R_9$ ,  $R_{10}$ , and  $R_{11}$ , which may be the same or different, each represent hydrogen or alkyl),

5

it being understood that:

10

the term "alkyl" denotes an alkyl group having 1 to 6 carbon atoms which may be linear or branched and

the term "alkoxy" denotes an alkyloxy group having 1 to 6 carbon atoms which may be linear or branched,

its enantiomers and diastereoisomers, and addition salts thereof with a pharmaceutically-acceptable acid or base,

15

which is effective for alleviation treatment of the condition.

56. (currently amended) The method of Claim 55, wherein the compound of formula (Ia) is sinomenine.

57. (canceled)

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58. (canceled)

59. (currently amended) The method of Claim 55, wherein the sinomenine compound of formula (Ia) is selected from:

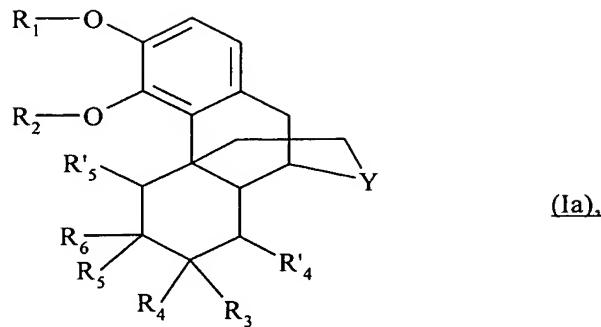
(9 $\alpha$ ,13 $\alpha$ )-4-hydroxy-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-6-one hydrazone;

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(7 $\alpha$ ,9 $\alpha$ ,13 $\alpha$ )-4-hydroxy-3,7-dimethoxy-17-methylmorphinan-6-one;

(7 $\beta$ ,9 $\alpha$ ,13 $\alpha$ )-4-hydroxy-3,7-dimethoxy-17-methylmorphinan-6-one;  
(9 $\alpha$ ,13 $\alpha$ )-3,7-dimethoxy-17-methyl-6-oxo-7,8-didehydromorphinan-4-yl propionate;  
(9 $\alpha$ ,13 $\alpha$ )-3,4,7-trimethoxy-17-methyl-7,8-didehydromorphinan-6-one;  
(9 $\alpha$ ,13 $\alpha$ )-4-hydroxy-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-6-one oxime;  
5 (9 $\alpha$ ,13 $\alpha$ )-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-4,6-diol;  
(9 $\alpha$ ,13 $\alpha$ )-4-hydroxy-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-6-one N-oxide;  
(9 $\alpha$ ,13 $\alpha$ )-6-amino-3,7-dimethoxy-17-methylmorphinan-4-ol;  
10 4-{[(9 $\alpha$ ,13 $\alpha$ )-4-hydroxy-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-6-yl]-oxy}-4-oxobutanoic acid;  
(9 $\alpha$ ,13 $\alpha$ )-3,7-dimethoxy-17-methyl-4-(propionyloxy)-7,8-didehydromorphinan-6-yl propionate;  
(9 $\alpha$ ,13 $\alpha$ )-17-benzyl-4-hydroxy-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-17-i  
15 um-6-one bromide;  
(9 $\alpha$ ,13 $\alpha$ )-17-ethyl-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-17-i-um-4,6-diol bromide;  
(9 $\alpha$ ,13 $\alpha$ )-17-ethyl-4-hydroxy-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-17-i  
20 um-6-one bromide;  
(9 $\alpha$ ,13 $\alpha$ )-4-(benzoyloxy)-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-6-yl benzoate;  
(9 $\alpha$ ,13 $\alpha$ )-4-hydroxy-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-6-yl benzoate; and  
(9 $\alpha$ ,13 $\alpha$ )-6-hydroxy-3,7-dimethoxy-17-methyl-7,8-didehydromorphinan-4-yl benzoate.

60. (currently amended) A pharmaceutical composition ~~for use in the treatment of deficiencies of memory associated with cerebral ageing and neurodegenerative diseases including Alzheimer's disease, Parkinson's disease, Pick's disease, Korsakoff's disease, and frontal lobe and subcortical dementias~~ comprising as active principle an effective amount of ~~sinomenine or a sinomenine a compound selected from those of formula (Ia)~~.



wherein

- R<sub>1</sub> represents alkyl,
- R<sub>2</sub> represents hydrogen, alkylcarbonyl, haloalkylcarbonyl or arylcarbonyl,
- Y represents  $\begin{array}{c} \diagup \\ \diagdown \end{array} \text{NR}_7$ ,  $\begin{array}{c} + \\ \diagup \\ \diagdown \end{array} \text{N}(\text{R}_7)\text{O}^-$  or  $\begin{array}{c} + \\ \diagup \\ \diagdown \end{array} \text{N}(\text{R}_7)(\text{R}'_7)\text{Z}^-$

wherein R<sub>7</sub> and R'<sub>7</sub>, which may be identical or different, each represent alkyl and Z<sup>-</sup> represents a halogen anion,

- R<sub>3</sub> represents hydroxy or alkoxy,
- R<sub>4</sub> and R'<sub>4</sub> each represent hydrogen or together form an additional bond, or R<sub>3</sub> and R<sub>4</sub> together form oxo or =N-OR<sub>8</sub> (wherein R<sub>8</sub> represents hydrogen or alkyl),
- R<sub>6</sub> represents hydroxy, alkylcarbonyloxy (wherein the alkyl moiety may be substituted by hydroxy, alkoxy, carboxy or alkyloxycarbonyl) or alkoxy,
- R<sub>5</sub> and R'<sub>5</sub> each represent hydrogen or together form an additional bond, or R<sub>5</sub> and R<sub>6</sub> together form oxo, =N-OR<sub>9</sub> or =N-NR<sub>10</sub>R<sub>11</sub> (wherein R<sub>9</sub>, R<sub>10</sub>, and R<sub>11</sub>, which may be the same or different, each represent hydrogen or alkyl),

it being understood that:

the term "alkyl" denotes an alkyl group having 1 to 6 carbon atoms which may be linear or branched and

the term "alkoxy" denotes an alkyloxy group having 1 to 6 carbon atoms which may be linear or branched,

its enantiomers and diastereoisomers, and addition salts thereof with a pharmaceutically-acceptable acid or base,

5

together with one or more pharmaceutically-acceptable excipients or vehicles.

61. (new) The method of Claim 53, wherein the living animal body is a human.

10 62. (new) The method of Claim 55, wherein the living animal body is a human.